

ADAPTABLE BOOTLOADER**ABSTRACT OF THE DISCLOSURE**

[0072] A microcontroller, which addresses program memory separately from data memory, is disclosed. The microcontroller includes a CPU and a boot memory coupled to the CPU. A control is coupled to the CPU and to the boot memory. In a first state, the control causes the boot memory to be configured as data memory. In a second state, the control causes the boot memory to be configured as program memory. A method for loading the boot memory is also disclosed. The method includes configuring the boot memory to be addressed as data memory unless it is already configured to be addressed as data memory, loading a program from an external program memory into the boot memory, configuring the boot memory to be addressed as a program memory, and executing the program in the boot memory. A method for using the microcontroller and method to debug software is described.